



# laetus in praesens

Alternative view of segmented documents via Kairos

27 April 2020 | Draft

## Alternating between Complementary Images of Coronavirus

### Requisite variety to enable viable strategic engagement

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#### Introduction

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## Introduction

The response to the coronavirus, COVID-19 and the pandemic is variously framed in terms of threat, fear, surprise, panic, evil, pestilence, and the like. There is a case for exploring the set of such images as a source of insight in its own right.

The inspiration for such an approach follows from the much-cited study by [Gareth Morgan](#) (*Images of Organization*, 1986), reviewed by [Matthew J. Lambert III](#) (*A review of Images of Organization, Complicity: An International Journal of Complexity and Education*, 6, 2009, 2). It has since been the focus of other works ([Anders Örténblad](#), et al, *Exploring Morgan's Metaphors: theory, research, and practice in organizational studies*, 2016; [Gareth Morgan](#), *Reflections on Images of Organization and Its Implications for Organization and Environment. Organization and Environment*, 24, 2012, 4). Morgan offers the following frameworks through which organizations can be perceived: machines, organisms, brains, cultures, political systems, psychic prisons, flux and transformation, and instruments of domination.

Presented in this way, the question is **through how many distinct frameworks can the coronavirus be fruitfully perceived** and what does such an exercise suggest in terms of strategic governance. What might it suggest for future pandemics -- COVID-21, COVID-22, etc -- or other crises? Although there are many "coronaviruses" (first discovered in the 1930s), it is appropriate to note that "COVID-19" does not imply that there were 18 previous variants, as has been assumed by a Minister for Health ([Simon Harris sorry for 'awful boo-boo' about 18 viruses before Covid-19](#), *The Irish Times*, 22 April 2020). It refers to the year of its detection in 2019.

In particular are the distinctive frameworks to be understood as complementary in a manner which could recall the fundamental significance of Heisenberg's [Uncertainty Principle](#) as it might have been applied to the psychosocial domain ([Garrison Sposito](#), *Does a generalized Heisenberg Principle operate in the social sciences? Inquiry*, 1969). That early possibility is now all the more credible in the light of the arguments from the perspective of international relations of [Alexander Wendt](#) (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015).

Any such reframing of uncertainty would of course be valuable, given the degree of disagreement between health experts on the appropriate strategies of lockdown and social distancing. These they have variously advised governments to adopt -- and are in process of clumsily planning to rescind. The resulting chaos of misinformation, fake news, and conspiracy theories, has itself been noted by the UN Secretary-General as highly problematic -- in the desperate quest for a unified global response ([Hatred going viral in 'dangerous epidemic of misinformation' during COVID-19 pandemics](#), *UN News*, 14 April 2020). The latter assertion has the unfortunate implication that any criticism of UN-authorized policies is held to be problematic, thereby making questionable UN perspectives as much a part of the problem as of any solution.

Missing at this time is any sense that the distinctive "truths" so vigorously upheld by opposing forces (deprecating each other's existence) might be better interpreted in the light of some form of probability theory -- rather than being necessarily upheld as either true or false. This would be consistent with emerging insight into a so-called "post-truth" context with which people are now obliged to live ([Surreal Nature of Current Global Governance as Experienced](#), 2016; [Living with Incomprehension and Uncertainty](#), 2012; [Living as an](#)

*Imaginal Bridge between Worlds*, 2011).

The following argument follows from earlier exploration (using 3D visual models) of the challenge of framing the global strategic response using conventional planning methods constrained by two-dimensional thinking (*Coronavirus -- Global Plan, Doughnut, Torus, Helix and/or Pineapple?* 2020; *Engaging Playfully with Coronavirus through "Organizing" Global Governance?* 2020).

The emphasis here is that a requisite variety of images to encompass the complexity of the strategic challenge implies the need for a form of "strategic nimbleness" to shift between them, as has been variously articulated (Deborah Ancona, et al, *Nimble Leadership*, *Harvard Business Review*, July–August 2019; Burke Powers. *Strategic Nimbleness as a Business Culture*, *Strategic Change Management*, 2 August 2005).

## Alternative images of coronavirus / COVID-19?

In the light of the approach of Gareth Morgan, a range of "images" or "frames" can be cited in a preliminary selection. This could include emotions, beliefs, conceptual frames or strategic reactions -- on the understanding that these could overlap and be conflated (if not confused) in practice. There is of course the question, as with the images identified by Morgan, as to why eight are considered appropriate, rather than a lesser or greater number:

1. collective **surprise** (consequent on previous failure to attend to prediction of future epidemics). The pandemic is readily cited as a **Black Swan event**, as clarified by (Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable*, 2007).
  - necessarily associated with ignorance, including negligence of prior warning (*WHO, Now Trump's Scapegoat, Warned About Coronavirus Early and Often*, *The New York Times*, 16 April 2020)
  - usefully recognized as exposure to the previously unknown, appropriately framed by the distinctions of Donald Rumsfeld regarding; **known knowns**, known unknowns, unknown knowns, and unknown unknowns
2. fear and **fearfulness** (framed in terms of the level and probability of fatality). This is despite the acceptable annual incidence of other causes of death and the acceptability of collateral damage in time of war (however each is regretted, and the manner in which the victors are selectively commemorated in the case of the latter). Also relevant are arguments, notably by conspiracy theorists, that a **culture of fear** and **fear-mongering** has been deliberately cultivated in support of questionable agendas
  - threat to individuals and/or society (necessitating a response from security-related services)
  - panic focusing a need to avoid it at all costs (thereby justifying exceptional emergency measures)
  - disaster of global proportions with disastrous implications (most obviously for the economy and the financial markets)
3. unmitigated **evil**, namely a manifestation of that which is believed by many to systematically undermine the essentially beneficent nature of innocent humanity. This is consistent with the various claims by world leaders and religious leaders for the prevailing importance of that understanding (*Existence of evil as authoritatively claimed to be an overriding strategic concern*, 2016; *Evil Rules: Guidelines for Engaging in Armageddon Now*, 2015). Its manifestation within institutions has also been noted, as reviewed by Mark Benton (*Unmasking Administrative Evil*, *Public Integrity*, 2020, February).
  - pestilence being one sign of prophesied **end times** (as one of the **Four Horsemen of the Apocalypse**, together with fire, flood and famine), and appropriately framed by Anne Fennimore and Arthur J. Sementelli (*Accounting for the Horsemen of the Administrative Apocalypse*, *Public Integrity*, April 2018)
  - an Act of God, as in the case of other natural disasters (*Acts of God vs Acts of al-Qaida: Hurricane Katrina as a message to Bible Belt America?* 2005)
4. a **biological phenomenon** or form of life (possibly deliberately manufactured or lending itself to weaponisation)
  - significant as a potentially threatening challenge corresponding to that of instinctual human memories of encounters with "wildlife"
  - biological challenge to medical research (especially necessitating urgent unlimited funding for a vaccine)
  - pestilence (necessitating suppression or eradication)
  - a medical challenge to the health services
5. an unfamiliar **structural pattern** (challenging the natural order as more conventionally recognized). Possibly to be understood as a geometrical template of value to any pattern language or raising valuable questions from an enactive cognitive perspective (George Lakoff and Rafael E. Núñez (*Where Mathematics Comes From: how the embodied mind brings mathematics into being*, 2000).
6. an **abstract concept** or statistical construct (as may be framed through the detachment of the social sciences, notably in the future)
  - an emergent meme (framed as a trend on social media and otherwise)
  - a conspiracy in its own right, especially given the prevailing confusion and assumptions regarding its deliberate cultivation
  - a pattern of data (inviting modelling and simulation by competing research groups)
  - an illusion (in the light of some philosophical perspectives)
7. a **catalyst for social change** and transformation (of necessity given recognition of the improbability of being able to return to past normality and business-as-usual)
  - source of strategic learning in relation to governance and emergency preparedness (*Enabling Collective Intelligence in Response to Emergencies*, 2010)

- opportunity to advance otherwise problematic agendas (as perceived by vested interests and conspiracy theorists)
- a strategic question or set of questions (*Strategic Implications of 12 Unasked Questions in Response to Disaster*, 2013)

8. "aesthetic material", recognized as a source of inspiration in mitigation of the psychological impact of the pandemic experience. This most obviously engenders humour, but may also result in reframing through music, poetry, and other works of art, as may be variously explored (*A Singable Earth Charter, EU Constitution or Global Ethic?* 2006; Markus Buehler, *Nanomechanical sonification of the 2019-nCoV coronavirus spike protein through a materiomusical approach*, 2020; *Poetry-making and Policy-making: Arranging a Marriage between Beauty and the Beast*, 1993).

- it is especially curious to note that the *Great Plague* (1665) is claimed (controversially) to be remembered through the lyrics of a common nursery rhyme *Ring a Ring o' Roses* (*The Great Plague explanation of the mid-20th century*)

As with Gareth Morgan's set of 8 images, the obvious question is why only 8? In the above case regarding COVID-19 there is no obvious answer, as is the case with the limited number of preoccupations of governance which are incorporated into various global plans. However, in the case of COVID-19 such a constraint is somewhat ironically evident in the *"Eight ways in which scientists hope to provide immunity to SARS-CoV-2"*, The latter is the subtitle of a recent article noting that more than 90 vaccines are being developed against SARS-CoV-2 by research teams in companies and universities across the world (Ewen Callaway, *The race for coronavirus vaccines: a graphical guide*, *Nature*, 28 April 2020).

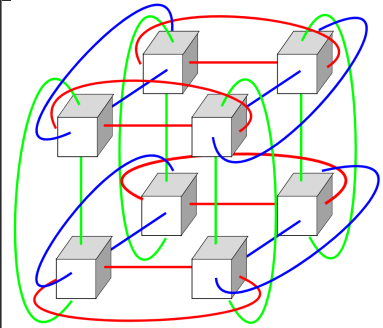
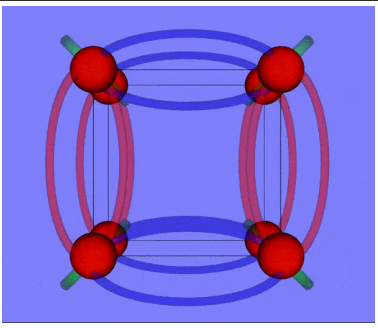
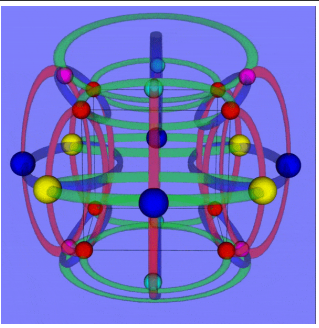
## Interrelating disparate frameworks fruitfully

**Insights from memory organization:** A further step in the argument would then be how such inherently disparate images might be meaningfully related. The question frames the challenge of whether an 8-fold set is sufficiently disparate and, if so, what form the relationship between those images might take without undermining their requisite variety in cybernetic terms. Further argument is necessarily speculative, as separately indicated (*Engaging with Elusive Connectivity and Coherence: global comprehension as a mistaken quest for closure*, 2018; *Time for Provocative Mnemonic Aids to Systemic Connectivity? Possibilities of reconciling the "headless hearts" to the "heartless heads"*, 2018).

The question has been specifically addressed in the light of so-called *torus interconnect*, namely a current approach to 3D memory organization of supercomputers. This is potentially to be understood as a key to the organization of any "global brain" of relevance to the strategic challenge (*Framing Cognitive Space for Higher Order Coherence: toroidal interweaving from I Ching to supercomputers and back?* 2019; *Envisaging a Comprehensible Global Brain -- as a Playful Organ*, 2019).

Such an unusual approach is arguably relevant in a period when NATO has been authoritatively asserted to be "brain dead" -- thereby inviting similar concerns (*Are the UN and the International Community both Brain Dead -- given criteria recognizing that NATO is brain dead?* 2019; James Dobbins, *Is NATO Brain Dead?* *Rand Corporation*, 3 December 2019).

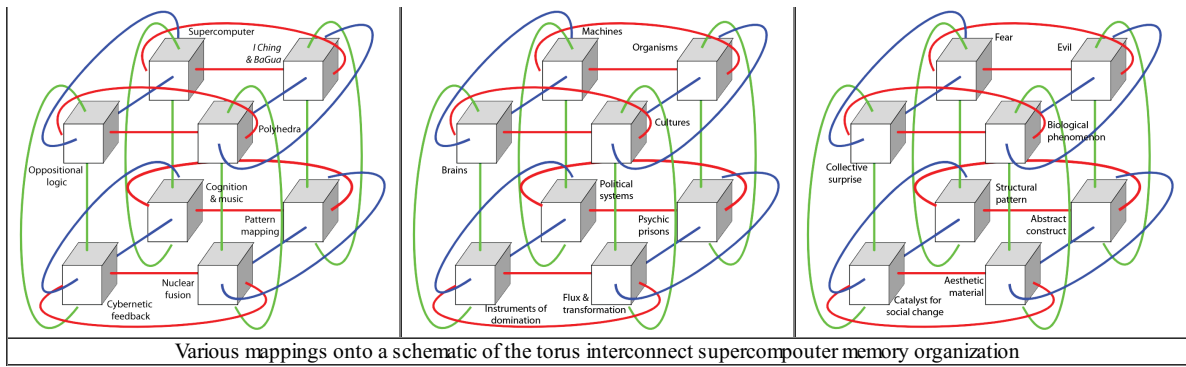
The image on the left below is a schematic from *Wikipedia* of the principle underlying torus interconnect, as often used by high performance computing systems. That in the center is a 3D animation of the principle, further developed in the animation on the right for an even higher order of connectivity.

Representations of the torus interconnect employed in supercomputer memory organization		
Torus interconnect schematic (in cubic array)	3D reconstruction of schematic on left (animation with indicative cube)	Interlinking of a 3x3x3 set of 24 nodes (each linking 3 orthogonal loops)
		
Reproduced from <i>Wikipedia</i>	Reproduced from <i>Framing Cognitive Space for Higher Order Coherence</i> (2018)	

**Configuring contrasting frameworks:** As argued with respect to the quest for higher order coherence, there is a case for confronting a set of differences as a means of engendering creativity transcending the preoccupations of a particular domain -- potentially to be described as a "difference engine". The eight domains previously discussed are indicated in such a framework (as indicated on the left below). Understood as complementary, the suggestion is that these are potentially related by a pattern of correspondences -- although any such pattern is necessarily tentative at this stage. Whether these are sufficiently distinct to constitute requisite variety remains to be explored.

For purposes of discussion, that pattern could be suggestively used to configure the 8 images of organization of Gareth Morgan, as mentioned above. In that spirit, the pattern could also be used to interrelate the disparate "images" of COVID-19 as detailed above (below centre).

Suggestive correspondence between configurations of highly disparate comprehension of "organization"		
"Global brain"?	<i>Images of organization</i> (Morgan, 1986)	COVID-19



## Higher dimensionality of coherence?

**Complexification?** The argument can be taken further by complexifying the configurations indicated above -- as is in fact characteristic of memory organization in the supercomputers mentioned. The images below indicate such possibilities, notably in the light of the oppositional logic and its associated geometry, as discussed separately (*Global Coherence by Interrelating Disparate Strategic Patterns Dynamically: topological interweaving of 4-fold, 8-fold, 12-fold, 16-fold and 20-fold in 3D*, 2019).

Especially of value to the argument is the focus on risk and trust, given their role in any (collective) confidence in any model. The challenge of both is evident in relation to current declarations of authorities regarding the pandemic and the manner in which these are contested, irrespective of the degree to which any such protest is deprecated.

Containing the spread of COVID-19 is readily held to require that citizens have faith in both their government and one another (Bo Rothstein, *Trust Is The Key to Fighting the Pandemic*, *Scientific American*, 24 March 2020). As widely noted, however, the confusion associated with the pandemic has resulted in a massive erosion of public trust in authorities (Darren Palmer, *Pandemic policing needs to be done with the public's trust, not confusion*, *The Conversation*, 8 April 2020).

It is in this sense that an articulation with regard to risk and trust is of particular value, as presented in models by Carlos Trigoso (*Correlating Risk and Trust Management*, 2017). The author stresses that in order to overcome the technocentric focus in information security and identity management, there is need for a model which correlates all aspects of risk and trust management. The framework offers a much wider perspective, avoiding the exclusive fixation on "risk avoidance". The associated issues are a focus of the clarifications by Nassim Nicholas Taleb (*Ethics of Precaution: Individual and Systemic Risk*, 17 March 2020; *Antifragile: Things That Gain From Disorder*, 2012).

The image of Trigoso can be seen as framing the elusive experiential dimension of which the form and dynamics of the **tesseract** are indicative. Trigoso's own image is presented here redrawn (below right), of but with the addition of an internal cube in green -- indicative of the paradoxical comprehension complexity suggested by arguments relating to the tesseract, as discussed separately (*Neglected recognition of logical patterns -- especially of opposition*, 2017).

As noted in that discussion with respect to the image on the left, a comment on the work of **Shea Zellweger** (*Untapped potential in Peirce's iconic notation for the sixteen binary connectives*, 1997) in a blog (*Opposition Geometry: mathematics (and philosophy) of opposition*, 30 September 2015) notes:

The American psychologist Shea Zellweger (...) seems to be the first person to have remarked (in 1997?) that the 14 non-trivial binary connectives (i.e. the 16 binary connectives minus the "tautology" and the "contradiction" connectives) can be embedded into a 3D rhombic dodecahedron (which he called "logical garnet"). However, he does not seem to have been aware of the fact more or less the same structure (that is: the same structure but expressed in a different way, so to exhibit 6 logical hexagons in it) had been proposed by Sauriol in 1968.

Correspondences variously framing the nexus of confidence-identity?		
The Logic Alphabet Tesseract - a four-dimensional cube (see <a href="#">coding</a> ). by Shea Zellweger	Tesseract animation simulating requisite 4-dimensionality?	Cubic relation between risk and trust adapted to frame the subtlety of additional dimensionality
Diagram by Warren Tschantz (reproduced from the <a href="#">Institute of Figuring</a> ).	by Jason Hise [CC0], via Wikimedia Commons	Adaptation of the image by Carlos Trigoso ( <i>Correlating Risk and Trust Management</i> 2017)

The image on the right then frames a focus on the subtlety of confidence and sense of identity, increasingly experienced as fundamental in a period of pandemic and its evocation of panic. **In whom is it possible to have confidence** given the questionable assertions of health experts, the only too obvious self-interest of political groups, and the associated commercial forces seeking profitability at all cost? The calls for unquestionable confidence in authorities then frame the need to challenge the surrender of critical discourse and the efforts to impose conformity of perspective.

**Confidence and identity?** Clearly, despite its fundamental importance to global governance, the nexus of confidence and identity, as framed above (in green), eludes simplistic definition. The tesseract animation above is suggestive of the paradoxical complexity of that nexus in relation to what it is mistakenly assumed as lending itself to adequate objective definition in conventional terms.

Of some relevance is the curious role of the prefix "con-" as it features in a wide range of terms of relevance to "con-sensus", "con-gress", "con-firmation", "con-formity", and the like -- and especially any "confidence trick". The implications are discussed separately (*Exploration of Prefixes of Global Discourse: implications for sustainable confidality*, 2011; *Primary Global Reserve Currency: the Con? Cognitive implications of a prefix for sustainable confidality*, 2011; *Embodiment of Identity in Conscious Creativity: challenge of encompassing "con"*, 2011).

<b>Indicative framing of confidence and identity</b>	
<p>Configuration of axes of biases containing the consensual processes potentially fundamental to global confidality</p>	<p>Confidence and its surrogates indicative configuration of the variety of expressions and tokens of confidence</p>
<p>Representation of the axes of bias of W.T. Jones (1961), reproduced from <i>Configuring a system of pre-logical biases</i> (2009)</p>	<p>Reproduced from <i>Varieties of Confidence Essential to Sustainability: surrogates and tokens obscuring the existential "gold standard"</i> (2009)</p>

## Paradox of identity-confidence associated with inversion?

The tesseract animation is valuable in challenging the cognitive closure implied by the 2D schematics above. Given the widespread dependence on cubic architecture, both in buildings and knowledge organization, the challenge to comprehension can be further emphasized by the seeming impossibility of the "inversion of the cube". This can be understood as an articulation of the dilemma of outside-inside and inside-outside (*Interface challenge of inside-outside, insight-outsight, information-outformation*, 2017).

The explorations of the designer [Paul Schatz](#) led to discovery of the possibility inverting or everting the cube -- for which he is widely known, as illustrated by a number of videos:

- Charles Gunn: *Schatz Cube Eversion* (Vimeo, 25 April 2017);
- Daniel Wall: *The Schatz Cube, or inverting cube* (YouTube, 8 October 2010);
- Ryser Andreas: *Invertible Cube* (30 March 2013; *Invertible cube*)
- Dolf Perenti: *Inverting Cube* (YouTube, 13 July 2011).

Flexible card models are also marketed with commentaries ([model](#); [model](#)) as with many wireframe models known as Hexyflex. His approach is described by the [Paul Schatz Foundation](#) as resulting in the construction of several machines, of which the most famous are the Turbula, the Inversina and the Oloid.

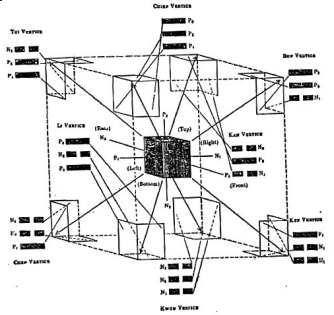
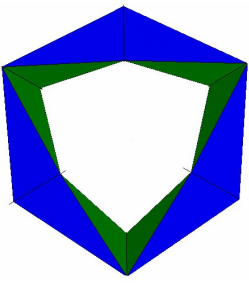
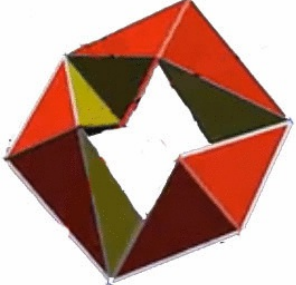
The potential of this approach is consistent with that widely framed in terms of the need for "thinking outside the box", as discussed separately (*Time for Provocative Mnemonic Aids to Systemic Connectivity?* 2018).

The cubic images above can then be considered as framing the challenge of how to think "outside" them. The argument of Paul Schatz is especially relevant in that so much of psychosocial organization is framed by the static architecture of the cube in 3D -- or through its compression into a square in 2D. This is the favoured modality for most explanatory tables. Through its 12-edges, the cube potentially offers clues to a relationship within any 12-fold pattern, but has not been extensively explored in that respect, although it is a feature of studies of [oppositional logic](#), and a relationship to the 8-fold pattern valued in Chinese thinking (see image below left).

Reference to "inside the box" is considered analogous with the current, and often unnoticed, assumptions about a situation. The associated dynamics are consistent with arguments for fluidity in creative thinking ([Douglas Hofstadter, Fluid Concepts and Creative Analogies: computer models of the fundamental mechanisms of thought](#), 1995). There is a case for recognizing the analogy implied by literal use of "the box" as a widely employed method of punitive solitary confinement, as vividly described by Shruiti Ravindran (*Twilight in the Box: what does solitary confinement do to the brain?* *Aeon*, 27 February 2014). Widespread conventional dependence on a cuboid framework may well constitute an analogous form of a solitary confinement -- curiously relevant to the lockdown imposed in response

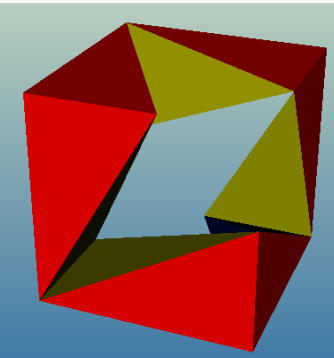
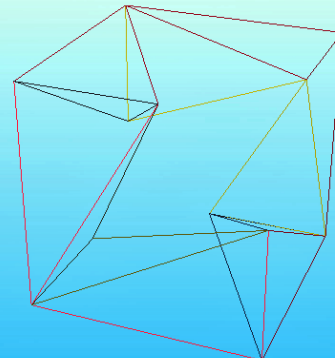
to the COVID-19 pandemic.

The question is therefore whether the form that Schatz extracted from the cube -- through the **dynamics** of its possible eversion -- offers indications of a way of transforming conventional preoccupation with its **static** form. The following images offer some indication of this, as discussed separately (*Eliciting the dynamics of the cube: reframing discourse dynamics*, 2018).

Cubical representation of BaGua pattern of I Ching	Rotation of views of a phase in inversion of cube	Animation of selected phases in inversion of cube
		
<p>Reproduced from Z. D. Sung, <i>The Symbols of Yi King or the Symbols of the Chinese Logic of Changes</i> (1934, p. 12)</p>	<p>Images derived from Charles Gunn (<i>Schatz Cube Eversion</i>, Vimeo, 25 April 2017) with the assistance of the author; interactive <a href="#">vml version</a> of centre model adapted by Sergey Bederov (Cortona3D)</p>	

Explorative 3D animations of the image on the left above are presented separately (*Succinct mapping of multidimensional psychosocial dynamics?* 2016).

In terms of the argument with respect to features hidden from the observer, this is especially evident in the case of the central image above. In that phase, the 24 sides are visible through the animation. But in the case of the static blue-green perspective or the static red-yellow perspective, only 12 sides are visible. Being hidden, the other 12 can only be inferred unless the structure was rendered transparent. In the reality of sociopolitical discourse opposing sides are never "transparent" to one another -- whatever the claims that are made. Cognitively each could be interpreted as a form of **shadow** for the other in the Jungian sense. The wireframe image on the right is indicative of the commercial product widely marketed as Hexyflex.

Schatz cube (solid and wireframe screen shot images) prior to inversion		
	<p>Sergey Bederov of Cortona3D has produced an interactive <a href="#">vml version</a> of the complete cycle of the original, with formulae kindly provided by Charles Gunn. Thanks to both. See <a href="#">video of the complete cycle</a></p>	

## Requisite complementarity for innovative strategic nimbleness

**Cubic container insights?** The frameworks presented above -- extended from 3D to 4D -- offer a way of discussing the complementarity between the images evoked by COVID-19 which are the focus of this argument. It is tempting to exploit the cubic characteristics as indicative framing elements in the following manner:

- 8 vertices or orientations: usefully recalling the disparate elements of the classic [Eightfold Path of Buddhism](#), as variously echoed in other domains, notably the [eightfold path of policy analysis](#) and the [eightfold way of physics](#) (as an organizational scheme subatomic particles, fundamental to framing the elusive nature of [quarks](#)). Of some relevance to this argument is the pattern of [8 team roles](#) originally identified by [Meredith Belbin](#) as a self-perception inventory, but subsequently extended to nine (*The Nine Belbin Team Roles*).
- 6 sides: as extensively discussed by [Edward de Bono](#) (*Six Thinking Hats*, 1985; *Six Frames For Thinking About Information*, 2008). A six-fold framework has been emphasized by others ([Raymond Abellio](#), *La Structure absolue. essai de phénoménologie génétique*, 1965)
- 12 edges: as notably fundamental to the dynamical framework of [Arthur M. Young](#) (*The Geometry of Meaning*, 1976) as can be variously discussed (*Typology of 12 complementary strategies essential to sustainable development*, 1998; *Characteristics of phases in 12-phase learning / action cycles*, 1998)

Of particular interest is the tendency to a form of fixation on the role of a given pattern of N-foldness as offering a primary ordering

function, as discussed separately (*Patterns of N-foldness: comparison of integrated multi-set concept schemes as forms of presentation*, 1980). Little attention is seemingly given to the implications of alternative "fixations". Examples include:

- the UN's 8 Millennium Goals,
- the UN's 17 Sustainable Development Goals,
- the 15 [Global Challenges](#) of the Millennium Project
- the 14 [Grand Challenges for Engineering in the 21st Century](#), as framed by the US National Academy of Engineering (2020)
- the 10 Catastrophic Threats articulated by the [Commission for the Human Future](#) (*Surviving and Thriving in the 21st Century: a discussion and call to action on global catastrophic risks*, 2020; Arnagretta Hunter and John Hewson, *10 Catastrophic Threats Are Facing Humans Right Now, And Coronavirus Is Only One of Them*, *Science Alert*, 25 April 2020)

**Container design:** The sets identified above -- as checklists (or strategic "laundry lists") exemplify a relative crude understanding of a strategic container. The nature of such a container has notably been addressed in cognitive terms as [image schemata](#) and as container metaphors (George Lakoff and Mark Johnson, *Metaphors We Live By*, 1980).

Whether as challenges or goals, the elements of each set can be understood as implying categories of "dangerous things" of which COVID-19 is but one example. These are all revelatory of categories currently cultivated in the "global mind" (George Lakoff, *Women, Fire, and Dangerous Things: what categories reveal about the mind*, 1987).

Given the manner in which such sets are effectively packaged in "boxes", there is some irony to the contrasting approach offered by [Alexander Klose](#) (citing Lakoff) in the light of the massive replication of containers for the transportation of goods (*The Container Principle: how a box changes the way we think*, 2015)

The cognitive and strategic challenge for global governance might be usefully seen in terms of the traditional alchemical endeavour to design a framework for the [universal solvent](#) capable of dissolving everything -- with any individual strategic endeavour having the capacity to cause the catastrophic collapse of any conventional container. Any of the 8 strategic frameworks named above has the capacity to negate destructively all the others -- unless subject to the mutual constraint of their complementarity. Could fixation on a particular metaphor be significant to the collective "choice" reviewed by [Jared Diamond](#) (*Collapse: How Societies Choose to Fail or Survive*, Viking Press, 2005)? In contrast to the classic *Metaphors We Live By* (1980), could such fixation be otherwise understood (*Metaphors To Die By: correspondences between a collapsing civilization, culture or group, and a dying person*, 2013)?

A curious feature of this paradox is the design challenge of the [ITER](#) nuclear fusion reactor. Its primary requirement is that the plasma it contains should not come in contact with its container wall for which a toroidal form has been considered appropriate. This can be seen as a potentially appropriate metaphor for the challenge to strategic comprehension at this time (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006),

Any such design challenge contrasts fundamentally with the simplistic use of the tank metaphor as the source of the strategic insights on which humanity is so dependent. The challenge is especially evident in the competitive articulation of global strategic preoccupations, as promoted from the conflicting perspectives of [think tanks](#) -- with little reference to each other or to their respective insights (*Tank Warfare Challenges for Global Governance: extending the "think tank" metaphor to include other cognitive modalities*, 2019).

As a container, any such tank also contrasts with more encompassing use of a traditional metaphor, namely the tent, and the quest for a "bigger tent" -- rather than a better tank (*Global Brane Comprehension Enabling a Higher Dimensional Big Tent?* 2011).

## Requisite strategic attitudes in anticipation of change?

The adaptation of Carlos Trigos's risk/trust cube to incorporate a focus for confidence/identity implies a higher dimensionality which necessarily eludes explication. Fortunately there are clues to the requisite attitude towards risk in entrepreneurship, the martial arts, and in forms of aesthetics calling for presence in the moment.

In the case of some traditions of Eastern martial arts this attitude is entangled with aesthetic insight (*Ensuring Strategic Resilience through Haiku Patterns: reframing the scope of the "martial arts" in response to strategic threats*, 2006). It is especially evident in the challenge of improvisation in music and song, most obviously in antiphonal duets (*Improvisation in Multivocal Poetic Discourse: Basque lauburu and bertsolaritza as catalysts of global significance*, 2016; *Evoking Castalia as Envisaged, Entoned and Embodied: the great game informed by the bertsolaritza cultural process?* 2016).

There is therefore a case for reviewing the 8-fold pattern above in the light of the requisite nimbleness, aesthetically understood -- namely the capacity to "think on the feet" or to "think on the fly" -- rather than to depend on prescribing. With respect to any higher dimensionality of the Trigos adaptation, this could be associated with the animations, whether of the tesseract or the Schatz cube -- the inner cube then paradoxically mirrored dynamically with the outer and framing a locus with which any meaning of "being centered" is associated.

**Reframing the challenges:** A possible reinterpretation of the 8-fold set of images, and their complementarity, might then take the following form:

1. **Surprise:** recognized as a primary characteristic of achieving competitive advantage in military strategy, business and many games. It is cultivated in drama and comedy and celebrated in courtship. It is a feature of successful debate and legal argument. In all such contexts skill is required in the anticipation of possible surprise. This is echoed to some degree in governance in the form of emergency preparedness. A notable example of the requisite attitude is evident in the improvised exchange cultivated by the [bertsolaritza](#) of the Basque culture.
  - what degree of surprise is to be anticipated on any stage or in debate?

- what underhand moves can be anticipated of an opponent?
  - to what extent should off-script discourse be anticipated?
2. **Fear:** ensuring a degree of fearfulness in others is a characteristic of those seeking dominance in many competitive situations. It may be experienced or sought in terms of respect and awe. Expressed as threat it may be valued in ensuring that others conform to some requirement. The experience of fear and terror is notably cultivated in many forms of entertainment and recreation. It is difficult to render these attractive without a dimension framed as "terrifying" or "thrilling". This may take the form of fear of losing, cultivated in some extreme sports in terms of the risk of fatality.
    - how fearful is it appropriate to be in anticipation of a performance before an audience -- long described in terms of [stage fright](#)?
    - what degree of fear is appropriate (even healthy) when engaged in extreme sports or intervention by special security forces?
    - what forms of terror, and of what degree, are esteemed to be seductive? (*Epistemology of Terror in the Moment*, 2005)
  3. **Evil:** typically an essential framing to inspire strategic action and to mobilize collective response, as evident in a tendency to portray any opposing force in such terms, whether elsewhere or internally. It is cultivated as an essential feature of many religions and, by extension, in the affirmation of values which non-believers fail to uphold, as in the case of the dynamics between political systems. Manifestations of evil are typically essential to successful drama and entertainment -- to be vanquished through the triumph of the good. Victors in military conflict cultivate representations of the vanquished as expressions of evil.
    - what kind of focus does an evil framing offer?
    - how does evil "bring out the best" in those who perceive it?
    - what form could drama take in the absence of the challenge of evil?
  4. **Biological phenomenon:** most evident in the curiosity about new expressions of life, whether in nature (as extensively presented in documentaries) or in personal experience of wildlife in the wilderness. The appreciation is especially evident in the engagement with pets. The curiosity is celebrated by some in the quest for alien life and its portrayal in science fiction. A variant is evident in the efforts to create realistic lifeforms, as with robots (and their extension to sex dolls). The challenge such non-human life poses is evident in the experience of zoos and safaris -- beyond that of domesticated animals.
    - what forms of life are "naturally" considered to be repugnant -- especially given the tendency to frame some as sub-human or inhuman?
    - given the challenge of terrestrial "aliens", would *Homo sum, humani nihil a me alienum puto* apply to extraterrestrials?
    - how unusual could alien life be expected to be?
  5. **Structural pattern:** most obviously appreciated in expressions of creativity and innovation, whether in the arts or technology. Such innovation may take both static form in new designs and patterns (possibly governed by patents) or through dynamic expression (most obviously in dance forms).
    - what is the nature of the challenge between traditional, conventional and emergent modern patterns?
    - how are traditional patterns to be appreciated, given the attraction of emergent patterns?
  6. **Abstract concept:** as with the emergence of new ideas, paradigms and meme -- possibly appreciated for the manner in which they reframe an existing order (inherited from the past) and heralding new ways of thinking and behaving. Especially intriguing, potentially, may be the revelation or discovery of unsuspected hidden dimensions of a more fundamental nature -- and a challenge to conventional modes of thinking.
    - as with structural patterns?
    - how are more subtle and complex patterns to be comprehended and rendered communicable?
  7. **Catalyst for social change:** recognized as a trigger revealing hitherto unsuspected opportunity for change and transformation. For some this may take the form of recognition of loop-holes, whether or not this is framed as exploiting a situation -- however creatively. The catalyst may be of a form which frames and evokes new questions -- and questions of a new kind.
    - what forms of change are to be appreciated or regretted?
    - what loop-holes are indicative of negligence, irrespective of the strategic insight required for their detection?
  8. **Aesthetic material:** as a source of inspiration for a reframing current experience in support of new possibilities. This is most obvious in humour. It is exemplified by the so-called "crazy wisdom" of Tibetan Buddhism, but otherwise evident in the recognition of "divine madness" in other religious traditions. Aesthetic use of such "material" is more evident in its "appropriation" by poets, song-writers and musicians -- exemplified by rap.
    - what use of what "material" evokes deprecation -- and by whom?

**Existential depths and implications of any challenge:** Whilst disparate attitudes can be readily distinguished and exemplified, as suggested above, their appreciation is clearly a matter of degree in practice. In the case of the COVID-19 pandemic it might then be asked:

- how much of a surprise did it constitute for global civilization?
- what degree of fear, terror and threat did it engender in the peoples of the world and their governments? (*Terror as Distractant from More Deadly Global Threats: bewitching world of definitional game-playing*, 2009)
- how evil could such a pestilence be framed to be, most notably by religions in quest of end-times indications?

- to what extent has COVID-19 been recognized as a biological phenomenon -- a manifestation of life, as with others in the biosphere, held to require their eradication as threatening to human well-being?
- how many insightful patterns are relatively neglected and dangerously misunderstood, as exemplified by the form of the coronavirus?
- how fundamental are the cognitive implications of the coronavirus pattern, as it might engage the attention of philosophers?
- for whom does a pandemic serve as a catalyst for change -- whether advantageous or surreptitious?
- how do aesthetics offer integrative inspiration, to what degree, and what is excluded from such appreciation -- especially in relation to engagement with COVID-19?

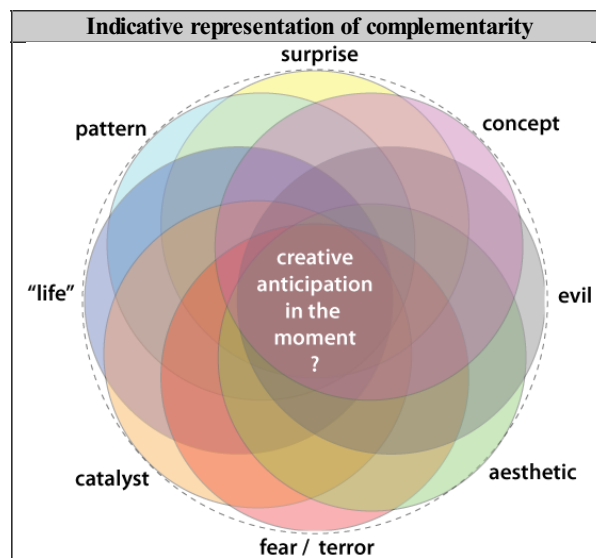
## Interweaving disparate voices in the moment

**Interweaving significance:** The articulation above tends to overemphasize the disparate nature of the requisite attitudes. The reality of experience requires a capacity to "dance" cognitively between them -- hence "strategic nimbleness" -- as exemplified in the martial arts, and especially their underlying philosophy. This is notably evident in classical articulations of sets of strategies which continue to be appreciated in strategic settings (*The Book of Five Rings*; *The Art of War*; *Thirty-six Strategems*). A comprehensive set of challenging questions -- as 48 koans -- is offered in another classic, *The Gateless Barrier* (or *The Gateless Gate*).

How many "moves" are required to "fox" or deceive an opponent? How is appreciation of this skill to be distinguished from deprecation of confidence trickery -- given the risk/trust framework presented above? Ultimately, however, who is the opponent -- the "tiger" to be lured out of the "mountain" in the case of the *Thirty-six Strategems*? How many themes need to be interwoven for effective global governance, and how is interweaving to be understood, as separately discussed (

The point can be made otherwise through the casting of an array of characters or voices in any dramatic plot, composition or creative choreography -- in order for it to be attractive and memorable. This is especially evident in **cultural epics** such as the *Epic of Gilgamesh*, the *Mahabharata*, the *Kalevala*, or the *Ring of the Nibelung*. What constitutes their attractive power and durability does however remain elusive.

Rather than the cube-based configuration (above), one approach to indicating the requisite complementarity is through the following Venn diagram. This frames the central space responsive to the particular aspects -- and the potential "dance" between them.



Metaphorically, the configuration can usefully be understood as a form of **resonance hybrid** whose integrity derives from that dynamic. The following offering various clarifications of that pattern of resonance between complementary modes:

- *Operational insight sets as resonance hybrids?* (2018)
- *Psychosocial coherence as a resonance hybrid?* (2014)
- *Morphic resonance hybrid of complementary metaphors* (2011)
- *Dynamics, resonance hybrids and Pascal lines* (2008)
- *Configuration of alternatives as a resonance hybrid* (2008)
- *Comprehension of the attractor dynamic as a resonance hybrid* (2007)
- *Configuration of languages as a resonance hybrid* (1986)

How indeed does such resonance relate to the wave-related arguments of Alexander Wendt (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015) or to those of Chris Laszlo (*Quantum Management: the practices and science of flourishing enterprise*, *Journal of Management, Spirituality and Religion*, 2020)? Do complementary images imply contrasting forms of otherness (*Encountering Otherness as a Waveform -- in the light of a wave theory of being*, 2013)?

**Ways of looking?** Given the case made for the integrative perspective offered by aesthetics, reference can be usefully made to the extensive post-modern exploration of the poem by Wallace Stevens (*Thirteen Ways of Looking at a Blackbird*, 1917). Rather than a pattern of eight, are thirteen ways of looking to be understood as potentially characterizing a pattern of memetic warfare? The approach is further justified in an earlier argument in the light of the blackbird's renowned singing capacity (*Anticipating When Blackbirds Sing*

Chinese, 2014). This concluded with the following themes:

Noopolitics and memetic warfare within the noosphere  
Engaging with a memespace of paradoxical complexity  
Ways of looking at ways of looking  
Post-modern challenge to simplistic binary framing of the other

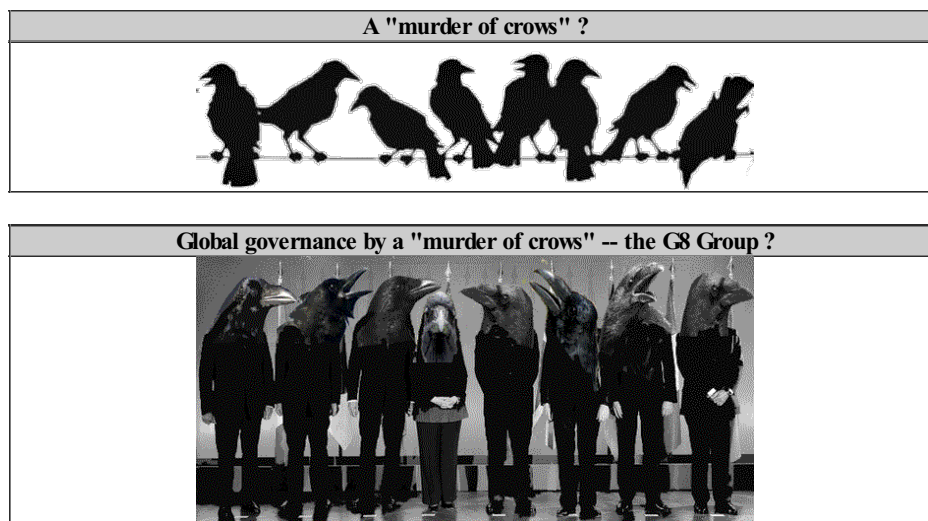
Imaginative composition of ways of looking or listening  
Embodying a multiverse of uncertainly ordered incongruity  
Thirteen ways of apprehending blackbird song  
Imagining future communication integrity enabled by aesthetics

Following the controversial disclosures regarding the degree of invasive electronic surveillance (currently in process of extension to COVID-19 contact tracking), **how might a variety of ways of looking be elicited and juxtaposed -- perhaps such that together their strange integrity rendered them meaningless to conventional observation?** The title of Stevens' poem is claimed to allude to the Cubist painting tradition of observing subjects simultaneously from numerous viewpoints to present a novel perspective. [Umberto Eco](#) might be said to offer an example (*Eternal Fascism: Fourteen Ways of Looking at a Blackshirt*, *New York Review of Books*, 22 June 1995, pp.12-15).

**Covid-19 versus Corvid-19?** The earlier argument included a provocative adaptation of "blackbird" to "crow", citing R. J. Derosa (*Of Crows, Poetry, and Politicians*):

I often stop and watch a crow cawing atop a pole. Each caw takes a lot of energy.... Politicians also make a lot of noise. I would rather listen to birds any day. **Crows and politicians share one similarity; they both puff themselves up prior to emitting sound.** Given a choice, I will always prefer crow-talk (*RJ Derosa's Weblog*, 27 March 2012). [*emphasis added*]

Given the disastrous approach to global governance, toeing a conventional line, this evoked the following images appropriately exploiting the collective noun for a group of crows -- namely a **murder of crows** (Kevin Dickinson, *Why is it called a murder of crows?* *Big Think*, 30 September 2018).



With respect to current preoccupation with COVID-19, and any anticipation of future pandemics (COVID-21 and thereafter), there is a delightful irony to the above association with "crows". In scientific terms, the crow is a member of the *Corvidae* family which includes some 120 species; *Corvus* being one genus of 45 members within that family. The irony is evident in the common erroneous reference to *Covidae* (4,300 Google results) rather than to *Corvidae* (1,200,000 results), most notably in extensive websites of images, but also including scientific and other reports. As might be suspected, there are even references to CORVID-19 (663,000 results) -- a phenomenon discussed by Joseph Longo (*In the Covid Crisis the Corvid is having a moment*, *Mel Magazine*, 17 April 2020).

The relevance of such confusion in a period of pandemic merits further attention in the light of the ambiguity of the traditional symbolic significance associated with the crow. On the one hand, the crow is closely associated with death -- notably in the light of its role as a carrion eater, feeding on flesh on battlefields (*Why are black crows associated with death?* *Quora*, February 2018; Charles Mudede, *We See Death When We See Crows*, *The Stranger*, 9 September 2015). Some cultures have seen the crow as a messenger of death, the unknown and the underworld. They were especially evident at the time of the Great Plague in 1665 -- curiously complemented by **plague doctors wearing beaked masks**. (Erin Blakemore, *Why plague doctors wore those strange beaked masks*, *National Geographic*, 12 March 2020).

On the other hand, the *Corvidae* are considered to be the most intelligent birds, and have been appropriately associated with a source of insight and the **trickster** archetype (Michelle Starr, *13 Strange Reasons Why Crows And Ravens Are Definitely The Smartest Birds*, *Hands Down*, *ScienceAlert*, 30 August 2019; Lyanda Lynn Haupt, *Crow Planet: Essential Wisdom From the Urban Wilderness*, 2009).

## Indicative representation of resonance between complementary frameworks

The image above, being essentially static, can only imply the dynamics associated with resonant alternation between contrasting perspectives. Some further indication can be sought through metaphor (*Metaphors of Alternation: an exploration of their significance for development policy-making*, 1984).

As noted above, the possibility of representation can be most readily suggested through music, as discussed separately (*Hearing the Variety of Voices in Climate Change Discourse: recognizing the challenge of soundscape comprehension in controversy and emergency*, 2019). The latter distinguishes the following, of which the interplay in each case is familiar to most and readily comprehensible:

- voice types: *Climate change discourse according to classification of singing voice types?*
- types of singing: *Types of singing as indicative of modes of climate change discourse*

However any sense of coherent alternation between voices as instruments, or instruments alone, is central to orchestration, as discussed in that context (*Orchestration of a requisite variety of voices in response to climate change?* 2019).

**Encoding of 8-fold patterns:** It could be assumed that orchestration, choreography and composition also offer examples of visual representation of interplay consistent with a sense of complementarity. That earlier exploration concluded with a discussion of *Patterns of resonance and their characteristic experiential challenges*, illustrated by the following animations indicative of the resonance inherent in the 8-fold encoding offered by the Chinese *BaGua* system. This is especially the case given the nature of the transformation between its 8 conditions to which the encoding gives precision, as indicated in the animations below-left. Both the conditions and the transformations are traditionally described through metaphor.

The animations below-right are reproduced from a discussion of *Transformation pathways in multivocal discourse* (2016) featuring the *Lauburu* pattern (or Basque cross). The latter featured in an experimental depiction of 8-fold, 16-fold and 24-fold patterns (*24-fold Pattern Implied by Dynamics of the Lauburu in 3D: visualization of the interplay of sets of voices in discourse*, 2016)

Use of 8-fold BaGua to suggest the resonant dynamic relationships between voices			
Alternative experimental animations indicative of transformations between BaGua "voices"		Experimental rotation of alternative Lauburu patterns over alternative BaGua patterns	
Later Heaven (King Wen) pattern of transformations	Earlier Heaven (Fuxi) pattern of transformations	Anti-clockwise over Later Heaven (King Wen) pattern	Clockwise over Earlier Heaven (Fuxi) pattern

The argument with respect to climate change can be generalized in more speculative exploration of the global brain -- itself to be imagined as a form of resonance hybrid. This considered the helical organization of patterns such as those above, in the light of the role of the musical octave as the epitome of comprehensible resonance for many (*Requisite helical cognitive engagement within a global brain*, 2019).

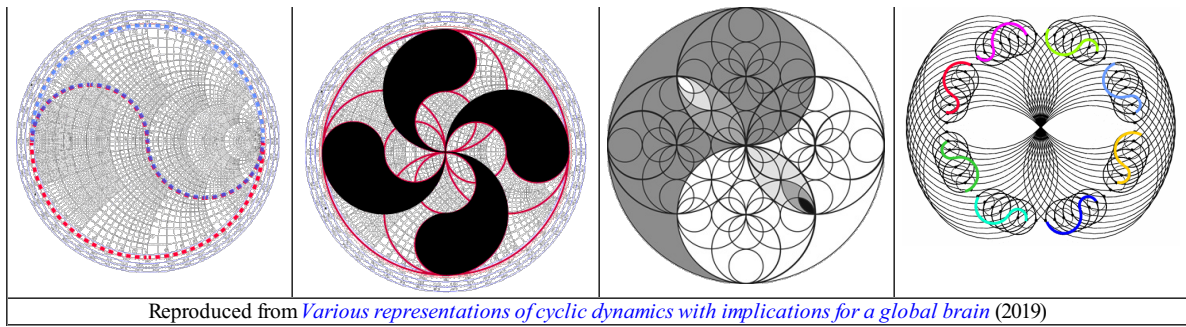
**Smith chart and Lauburu:** Cyclic dynamics can be indicated in a surprising manner through use of the 2D variant of the *Smith Chart*. This is a graphical aid or *nomogram* designed for electrical and electronics engineers specializing in *radio frequency* (RF) engineering to assist in solving problems with transmission lines and *circuit matching*. As discussed separately it can be used to explore the dynamics of cognitive transformations potentially typical of a (global) brain (*Modulating cognitive transformations: electrical metaphors and semiconduction in In Quest of a Dynamic Pattern of Transformations: Sensing the strange attractor of an emerging Rosetta Stone*, 2012).

Curiously, but potentially appropriately, the form of the patterns has resulted in their recognition using terminology with which the circle of hexagrams has been traditionally associated (Randy Rhea, *The Yin-Yang of Matching, High Frequency Electronics*, 2006). In relation to the discussion of wave forms, the 8 types of the 2D Smith Chart were presented separately (*Animations variously suggestive of "being a waveform"*, 2013 in *Being a Waveform of Potential as an Experiential Choice: emergent dynamic qualities of identity and integrity*, 2013). The animation on the left below is a redrawn versions, using dashed lines, of the 8 figures identified by Randy Rhea (2006).

The animation on the right below uses a sequence of images to give a sense of pathways within and between more "worlds" of more "local" preoccupation (*Various representations of cyclic dynamics with implications for a global brain*, 2019). Cyclical patterns of N-foldness in static depictions of a global brain? Pathways of larger dimension are indicative of emergence of more "global" integration of the hemispheres of the brain

>

Experimental animations representing dynamics of resonance			
Representation through combinations of Smith Chart with Lauburu and Tao pattern			Pathways in a global brain?
8 elements of Tao symbol represented experimentally on a Smith Chart	Superposition of Lauburu on Smith Chart	Animation of the Tao image between 8 orientations	Indicative of "global brainwaves"?



Reproduced from *Various representations of cyclic dynamics with implications for a global brain* (2019)

**Clues from improvisation:** The challenge with any representation of resonance of strategic significance is how cognitive implication is indicated. Given the obvious requirement in music improvisation and challenging poetic exchanges, an extensive discussion of the matter focused on the former as framed by the Lauburu as an integrative symbol for the Basque bertsolaritza tradition (*Improvisation in Multivocal Poetic Discourse: Basque lauburu and bertsolaritza as catalysts of global significance*, 2016)/

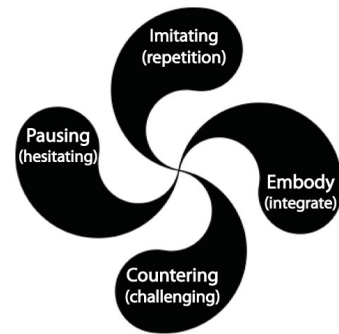
Clarification as to how participants, using different instruments, might improvise together within a group is offered in a key text by Vinko Globokar (*Reacting: role of a performer*, 1970). The distinctions were tentatively mapped onto a Lauburu, as shown below right, with related uses of that framework in the original discussion.

**Imitation:** After a variable lapse of time, a performer reproduces exactly what is heard. This being the most direct and instinctive mode. Clearly, the spontaneity as well as the quality of the response will depend on the contents and character of the pattern, on the degree of its complexity and on the degree of its perceived difficulty.

**Integration:** Rather than imitation, it is possible for the performer to integrate into material serving as a pattern, to follow it, to embody it, to move in the direction it suggests. The performer can always find a possibility of doing so one way or the other, and so the degree of complexity of information does not play a decisive role.

**Hesitation:** This is the mode tending most to create distance and disengagement. Starting from being "tied" to a particular pattern, the performer reaches a mode of actively creating pauses -- extremely alive and tense. Parts of the pattern are taken and positioned in time, transformed subjectively. This may produce an inner tension in the performer which complete prescription would probably have been incapable of provoking. Idleness in music, which otherwise makes for a dead situation, then becomes extremely "constructive".

**Countering:** Contrary to the above, doing the opposite from might be expected by any pattern, the performer rapidly analyzes the situation to determine an alternative. Ultimately, he does not "choose" but reacts. A pattern characterized by maximum loudness, static, in a deep register, will be "opposed" according to the individuals in one, two or even all three parameters at the same time



It is appropriate to ask in any dynamic relating to a crisis, such as the COVID-19 pandemic, to what extent authorities design into policy elaboration those 4-fold distinctions. The impression created by authorities has been unquestionable assertion -- from which any contrary perspective has been skillfully (if negligently) designed out. As noted separately, it is characteristic of more mature strategic assessments to benefit from simulations of at least two opposing strategies, especially in evaluating military options -- typically a so-called "Red Team" and a "Blue Team" (*Misrepresentation of the scope of the crisis?* 2020).

**Indication of resonance using a 3D Lauburu framework:** Given the availability of 3D modelling facilities, it is possible to explore a form of interplay between 8, 16 and 24 voices, as discussed separately and indicated below (*24-fold Pattern Implied by Dynamics of the Lauburu in 3D: visualization of the interplay of sets of voices in discourse*, 2016).

Screen shots and 3D animations of complementary "voices" using the geometry of mutually orthogonal lauburu to frame pathways of emergence and reabsorption		
Single-plane lauburu framework 8-voice dynamics	Double-plane lauburu framework 16-voice dynamics	Triple-plane lauburu framework 24-voice dynamics
Video (mp4). Virtual reality (x3d, wrl)	Video (mp4). Virtual reality (x3d, wrl)	Video (mp4). Virtual reality (x3d, wrl)

**Resonance indicated by an 8x8 magic square:** As one of the [Founding Fathers of the United States](#), [Benjamin Franklin](#) was a recognized polymath and one of the most influential personalities of his time. He is recognized as having been the most intimately involved in the elaboration of the US Constitution.

One of Franklin's far less recognized accomplishments, however, was his exploration of magic squares, and even [magic circles](#), as noted by [Paul Pasles](#) (*Franklin Squares* 2006; *Benjamin Franklin's Numbers: an unsung mathematical odyssey*, Princeton University Press, 2007) and by Maya Mohsin Ahmed (*Unraveling the secret of Benjamin Franklin: constructing Franklin squares of higher order*, 23 September 2015).

The methods by which he generated such squares so readily, characterized by so-called bent diagonals, remain unknown (Harvey Heinz, *Most-perfect Bent diagonal Magic Squares*, 2009; Daniel Schindel, et al., *Enumerating the bent diagonal squares of Dr Benjamin Franklin*, *Proceedings of the Royal Society*, 462, 2006), pp. 2271-2279; Paul Pasles (*The Lost Squares of Dr. Franklin*, *The American Mathematical Monthly*, 108, 2001, 6).

Franklin's 8x8 magic squares: animations of movement of selected bent diagonals		
Vertical movement	Combined movement	Horizontal movement
52 61 4 13 20 29 36 45 14 3 62 51 46 35 30 19 53 60 5 12 21 28 37 44 11 6 59 54 43 38 27 22 55 58 7 10 23 26 39 42 9 8 57 56 41 40 25 24 50 63 2 15 18 31 34 47 16 1 64 49 48 33 32 17	52 61 4 13 20 29 36 45 14 3 62 51 46 35 30 19 53 60 5 12 21 28 37 44 11 6 59 54 43 38 27 22 55 58 7 10 23 26 39 42 9 8 57 56 41 40 25 24 50 63 2 15 18 31 34 47 16 1 64 49 48 33 32 17	52 61 4 13 20 29 36 45 14 3 62 51 46 35 30 19 53 60 5 12 21 28 37 44 11 6 59 54 43 38 27 22 55 58 7 10 23 26 39 42 9 8 57 56 41 40 25 24 50 63 2 15 18 31 34 47 16 1 64 49 48 33 32 17
Reproduced from <i>Salvation Enabled by Systemic Comprehension -- Via aesthetics of magic squares?</i> (2015)		

Franklin called his 16x16 magic square *the most magically magical of any magic square ever made by a magician* -- with which many mathematicians and mystics would now be held to agree (Peter Loly, *Franklin Squares: a chapter in the scientific studies of magical squares*, University of Manitoba, 2006; [William H. Richardson](#), *Ben Franklin's Amazing Magic Square* [including animation], Wichita State University; *Ben Franklin's 8x8 Magic Square*, Wichita State University).

Franklin's 16x16 magic squares: animations of movement of selected bent diagonals		
Vertical movement	Combined movement	Horizontal movement
200 217 232 249 8 25 40 57 72 89 104 121 136 153 168 185 58 39 26 7 250 231 218 199 186 167 154 135 122 103 90 71 198 219 230 251 6 27 38 59 70 91 102 123 134 155 166 187 60 37 28 5 252 229 220 197 188 165 156 133 124 101 92 69 201 216 233 248 9 24 41 56 73 88 105 120 137 152 169 184 55 42 23 10 247 234 215 202 183 170 151 138 119 106 87 74 203 214 235 246 11 22 43 54 75 86 107 118 139 150 171 182 53 44 21 12 245 236 213 204 181 172 149 140 117 108 85 76 205 212 237 244 13 20 45 52 77 84 109 116 141 148 173 180 51 46 19 14 243 238 211 206 179 174 147 142 115 110 83 78 207 210 239 242 15 18 47 50 79 82 111 114 143 146 175 178 49 48 17 16 241 240 209 208 177 176 145 144 113 112 81 80 196 221 228 253 4 29 36 61 68 93 100 125 132 157 164 189 62 35 30 3 254 227 222 195 190 163 158 131 126 99 94 67 194 223 226 255 2 31 34 63 66 95 98 127 130 159 162 191 64 33 32 1 256 225 224 193 192 161 160 129 128 97 96 65	200 217 232 249 8 25 40 57 72 89 104 121 136 153 168 185 58 39 26 7 250 231 218 199 186 167 154 135 122 103 90 71 198 219 230 251 6 27 38 59 70 91 102 123 134 155 166 187 60 37 28 5 252 229 220 197 188 165 156 133 124 101 92 69 201 216 233 248 9 24 41 56 73 88 105 120 137 152 169 184 55 42 23 10 247 234 215 202 183 170 151 138 119 106 87 74 203 214 235 246 11 22 43 54 75 86 107 118 139 150 171 182 53 44 21 12 245 236 213 204 181 172 149 140 117 108 85 76 205 212 237 244 13 20 45 52 77 84 109 116 141 148 173 180 51 46 19 14 243 238 211 206 179 174 147 142 115 110 83 78 207 210 239 242 15 18 47 50 79 82 111 114 143 146 175 178 49 48 17 16 241 240 209 208 177 176 145 144 113 112 81 80 196 221 228 253 4 29 36 61 68 93 100 125 132 157 164 189 62 35 30 3 254 227 222 195 190 163 158 131 126 99 94 67 194 223 226 255 2 31 34 63 66 95 98 127 130 159 162 191 64 33 32 1 256 225 224 193 192 161 160 129 128 97 96 65	200 217 232 249 8 25 40 57 72 89 104 121 136 153 168 185 58 39 26 7 250 231 218 199 186 167 154 135 122 103 90 71 198 219 230 251 6 27 38 59 70 91 102 123 134 155 166 187 60 37 28 5 252 229 220 197 188 165 156 133 124 101 92 69 201 216 233 248 9 24 41 56 73 88 105 120 137 152 169 184 55 42 23 10 247 234 215 202 183 170 151 138 119 106 87 74 203 214 235 246 11 22 43 54 75 86 107 118 139 150 171 182 53 44 21 12 245 236 213 204 181 172 149 140 117 108 85 76 205 212 237 244 13 20 45 52 77 84 109 116 141 148 173 180 51 46 19 14 243 238 211 206 179 174 147 142 115 110 83 78 207 210 239 242 15 18 47 50 79 82 111 114 143 146 175 178 49 48 17 16 241 240 209 208 177 176 145 144 113 112 81 80 196 221 228 253 4 29 36 61 68 93 100 125 132 157 164 189 62 35 30 3 254 227 222 195 190 163 158 131 126 99 94 67 194 223 226 255 2 31 34 63 66 95 98 127 130 159 162 191 64 33 32 1 256 225 224 193 192 161 160 129 128 97 96 65
Reproduced from <i>Salvation Enabled by Systemic Comprehension -- Via aesthetics of magic squares?</i> (2015)		

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